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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,444	01/27/2004	Yorimichi Dairoku	1035-492	8698

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EXAMINER	
GODFREY, KEITH JOSEPH	
ART UNIT	**PAPER NUMBER**
1732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,444	DAIROKU ET AL.	
	Examiner	Art Unit	
	Keith J. Godfrey	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *27 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/8/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6-9 and 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 15 recite the limitation of "a foam shape". It is indefinite as to exactly what parameters a foam shape includes. It is noted that for the purposes of examination, the limitation of "a foam shape" has been interpreted as a porous object..

Regarding claim 7, the phrases "(a first polymerization step).....(a shaping step).....(a second polymerization step)" renders the claim indefinite because it is unclear whether applicant is positively claiming the phases in parentheses or simply making a concerted summary of the limitations above each step thereof. It is noted that for the purposes of examination, the above shown phrases have been interpreted as a mere summary of already claimed limitations and as such will not be accorded additional patentability weight.

Claims 8, 13, and 14 recite the limitation "the first polymerization step". There is insufficient antecedent basis for this limitation in the claims.

Claims 9 and 11 recite the limitation " the second polymerization step". There is insufficient antecedent basis for this limitation in the claims.

Claim 12 recites the limitation "the shaping step". There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-11, 13, and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Yamamura et al. (US Patent 6,365,644).

As to claim 1, Yamamura et al. ('644), teaches the claimed process of making a photo-polymerizable article including, providing a photo-polymerizable composition and curing said composition by photo-irradiation. Further, Yamamura et al. ('644) teaches that said composition includes an oxetane compound, an epoxy compound, a cationic photo-initiator (Abstract) and, a radically polymerizable organic compound such as urethane(meth)acrylate and epoxy(meth)acrylate (column 1, lines 47-48), (Ethylenically unsaturated oligomers found in aqueous solutions).

As to claim 3, Yamamura et al. ('644) teaches, an oxetane compound (Abstract) that can be polymerized or crosslinked by light radiation in the presence of a cationic photo-initiator (column 3, lines 18-25).

As to claim 4, Yamamura et al. ('644) teaches a resin composition containing a radically polymerizable organic compound and a cationically polymerizable organic compound (column 1, lines 60-64).

As to claim 5, Yamamura et al. ('644) teaches the step of post-curing the product by heat emission or light irradiation (column 18, lines 10-13).

As to claim 6, Yamamura et al. ('644) teaches a method of photo-fabrication to make a film (column 20, line 15-24).

As to claim 7, Yamamura et al. ('644) teaches the claimed process including, radiating with light the liquid surface of a solution containing a photo-curable resin composition including (meth)acrylate (water-soluble ethylenically unsaturated monomer) and a cationic photo-initiator, shaping said resin composition into a three-dimensional object, stopping radiation of the light, and post curing said three-dimensional object with irradiated light (column 17, line 34-67 and column 18, line1-19).

As to claim 8, Yamamura et al. ('644) teaches that the oxetane compound can be polymerized or crosslinked by radiation from light in the presence of a cationic photo-initiator (column 3, lines 18-25).

As to claim 9, Yamamura et al. ('644) teaches post-curing of the resin (column 18, lines 8-17). Hence, it is submitted that because a post-curing step is required that monomer is present in the composition. As such, said monomer is ultimately polymerized during the second polymerization step (post-curing) in the process of Yamamura et al. ('644).

As to claim 10, Yamamura et al. ('644) teaches a resin composition containing a radically polymerizable organic compound and a cationically polymerizable organic compound (column 1, lines 60-64).

As to claim 11, Yamamura discloses the use of heat to post-cure the resin (column 18, lines 8-17).

As to claim 13, Yamamura et al. ('644) teaches a shaping step performed after the first polymerization step. Further, Yamamura et al. ('644) teaches that a thin layer is selectively irradiated with light to form a first solid cured resin layer. Additional resin composition is then supplied over the first solid cured resin layer to form a second thin layer which is then selectively irradiated with light to laminate a second solid cured resin layer on the first solid cured layer, thereby creating a shaped three-dimensional shaped object (column 17, lines 54-59).

As to claim 15, Yamamura et al. ('644) teaches the method of photo-fabrication to make a film (column 20, line 15-24).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Yamamura.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamura et al. ('644) in view of Tokukai (Japanese Patent 2003-64235).

Yamamura et al. ('644) teaches the basic claimed process as described above.

As to claims 2 and 12, Yamamura et al. ('644) does not teach the polymerizing of the aqueous solution on a surface of another base material or inside another base material. Tokukai teaches a method for making a water-absorbable object including, directly applying a prepolymer composition onto a base material sheet, and then hardening the prepolymer on the base material sheet to form the water-absorbable object (page 2, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to polymerize the aqueous solution on a surface of another base material as taught by Tokukai in the process of Yamamura et al. ('644) because of well known advantages that a fiber based material provides such as improved strength and flexibility, hence providing for an improved product and also because both references are concerned with a similar technical field, namely that of producing three-dimensional objects from water absorbent resins, thereby suggesting the fiber base of Tokukai.

7. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamura et al. ('644) in view of Dairoku et al. (US 2004/0092688).

Yamamura et al. ('644) teaches the basic claimed process as described above.

As to claim 14, Yamamura et al. ('644) does not teach that the first polymerization step and the shaping step are performed on a continuous belt. Dairoku et al. (US 2004/0092688) teaches the use of a continuous belt in the polymerization and shaping process of a water-absorbable resin composition (paragraph 0048).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the continuous belt of Dairoku et al. (US 2004/0092688) with the method of Yamamura et al. ('644) because of known advantages such as increased productivity that a continuous process provides as compared to a batch process, hence providing for an improved process and also because both references teach producing water absorbent resins, hence suggesting the use of the continuous belt of Dairoku et al. (US 2004/0092688).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith J. Godfrey whose telephone number is 571-272-6391. The examiner can normally be reached on Mon.-Thurs. 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kjg

STEFAN STAICOVICI, PHD
PRIMARY EXAMINER
AU 1732

1/3/07